

SCUTTLE FLIES (DIPTERA: PHORIDAE) FROM CORAL SEA ATOLLS

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Abstract

Of 92 specimens of Phoridae collected from North East Herald Cay and Coringa Cay in the Coral Sea, there was 1 female *Dohrniphora* Dahl of a group only identifiable from males in our present state of knowledge. The rest were *Megaselia spiracularis* Schmitz, not previously recorded from the Australasian Region.

Introduction

The scuttle flies of Australia are poorly known. The keys of Borgmeier (1967a, b) provide a starting point. Keys to the species recorded from Tasmania (Disney 2003) and the most recent checklist for the Australian mainland (Disney 2008) update these works, along with Disney (2011a).

PG asked RHL D to identify 14 samples of Phoridae, collected by herself and colleagues, from North East Herald Cay and Coringa Cay in the Coral Sea off the north-east coast of Australia in 1995, 1997 and 2007 (Greenslade and Farrow 2007).

Methods

The specimens had been collected in pitfall traps and yellow pan traps. They were preserved in alcohol, deposited in the Australian Museum, Sydney and sorted to family by Deborah Rich. RHL D mounted representative specimens on slides (Disney 2001).

Results

The samples represented 92 specimens belonging to the following two species.

Dohrniphora sp.

Material examined. CORAL SEA: 1 ♀, North East Herald Cay, yellow pan trap, 15.v.2007, P. Greenslade & S. Donaldson (in Australian Museum, Sydney).

Males of the Australasian and Oriental species of *Dohrniphora* Dahl were keyed by Disney (1990), supplemented by Disney and Bartareau (1995) and Disney and Kistner (1997, 1999). Females can rarely be named when not associated with their males. The above female is not the widely distributed species *D. cornuta* (Bigot), although belonging to the same group of species (see the key to females in Disney and Bänziger 2009). It has a single pair of bristles on the scutellum but, unlike *D. cornuta*, the dorsal hair palisade of the mid tibia extends about 0.9 times its length and, in addition, it has an anterior

palisade extending about three quarters of its length. Until linked to its male it cannot be named.

Megaselia spiracularis Schmitz

(Fig. 1)

Megaselia spiracularis Schmitz, 1938: 81.

Material examined. CORAL SEA: 1 ♂, North East Herald Cay (16.56°S, 149.11°E); 2.iii.1995, S. Donaldson; 1 ♂, same locality, pitfall trap, 5.iii.1995, S. Donaldson; 1 ♂, same locality, 1997, A. Anderson; 8 ♂♂, 2 ♀♀, same locality, 15.v.2007, pitfall traps, P. Greenslade; 49 ♂♂, 10 ♀♀, same data except yellow pan traps; 2 ♂♂, 1 ♀, same locality; 15.v.2007 (♂♂), 17.v.2007 (♀), yellow pan trap, P. Greenslade; 17 ♂♂, Coringa Cay (16.59°S, 149.53°E), pitfall traps, 17-19.iii.1995, S. Donaldson. (All in Australian Museum, Sydney).

The distinctive males of this species were included in a key by Borgmeier (1967a). The larval and pupal stages were described by Kaneko and Furukawa (1977), augmented by Liu *et al.* (2001).

These are the first records of this species for the Australasian Region. It has previously been recorded from the Eastern Palaearctic, the Oriental Region and New Zealand. It has been reared from dead snails in Japan (Schmitz 1938) and the larvae reported from human corpses in Malaysia (Thevan *et al.* 2010) and from cases of intestinal myiasis in Japan (Kaneko and Furukawa 1977). It has also been reported in a package of 'sterile' rodent feed imported into France from Japan (Disney 2011b). Being a saprophagous species, *M. spiracularis* will readily establish itself, if accidentally introduced by man or transported by the wind, in novel regions.



Fig. 1. *Megaselia spiracularis*: male, showing the characteristic enlarged abdominal spiracles.

Of the 91 *M. spiracularis* specimens, 85.7% were males. The yellow pan traps were more productive than pitfall traps, which is typical for Phoridae in which both sexes are winged (e.g. Disney *et al.* 1982). The use of pitfall traps for sampling Phoridae is useful for the flightless females of mainly myrmecophilous and termitophilous species.

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